

Australia and New Zealand



Koalas live in and feed on eucalyptus trees.

Australia and New Zealand are wealthy democratic countries located in the Southern Hemisphere. In this chapter you will learn about the distinctive and fascinating landscapes of these two countries.

Aboriginal art, *The Big Feast*



Hi! My name is Jared. My twin sister's name is Ashleigh. We live in Cooroy, Australia, about two hours north of Brisbane. We live with our mother. Our father doesn't live with us. He lives up north on the traditional lands of our people, the Djabugayndgi, at the edge of the Cape York Peninsula. Our house in Cooroy is on seven acres and has a big creek with a dam on it. The dam forms a big pond, or what we call a billabong. We can jump into the billabong from the trees along the edge. One tree used to have a swing, but it broke.

In the morning we shower and have orange juice, cereal, toast, and eggs before we catch the bus to school. We are in the ninth grade at Noosa High School. Roll call at school is at 8:30 A.M. Ashleigh and I are both studying math, science, English, history, and physical education. We also get to choose three electives. I'm taking art, speech, and woodworking. Ashleigh is taking art, music, and dance.

At 3:00 P.M. we catch the bus home. On Fridays we often stop at a friend's house and watch American and Australian TV shows. In my free time, I skateboard and play video games. On Saturdays I play sports. I have been invited to the state trials in rugby, softball, and three-on-three basketball. When I grow up, I'd like to be a rugby player. Ashleigh likes to play guitar and keyboard. She listens to rap music, pop, and reggae. She also designs houses. She wants to be an architect. We both like to go to the beach.



Australia

READ TO DISCOVER

1. What are the main features of Australia's natural environments?
2. What are Australia's history and culture like?
3. What are some important features of Australia's human systems?

WHY IT MATTERS

Protecting the environment from nonnative species is a challenge in Australia and many other countries. Use CNNfyi.com or other **current events** sources to find an issue involving nonnative species and environmental protection.

IDENTIFY

Aborigines

DEFINE

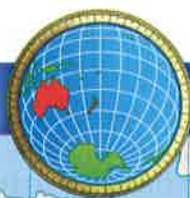
artesian wells
outback
marsupials
extensive agriculture
exotic species

LOCATE

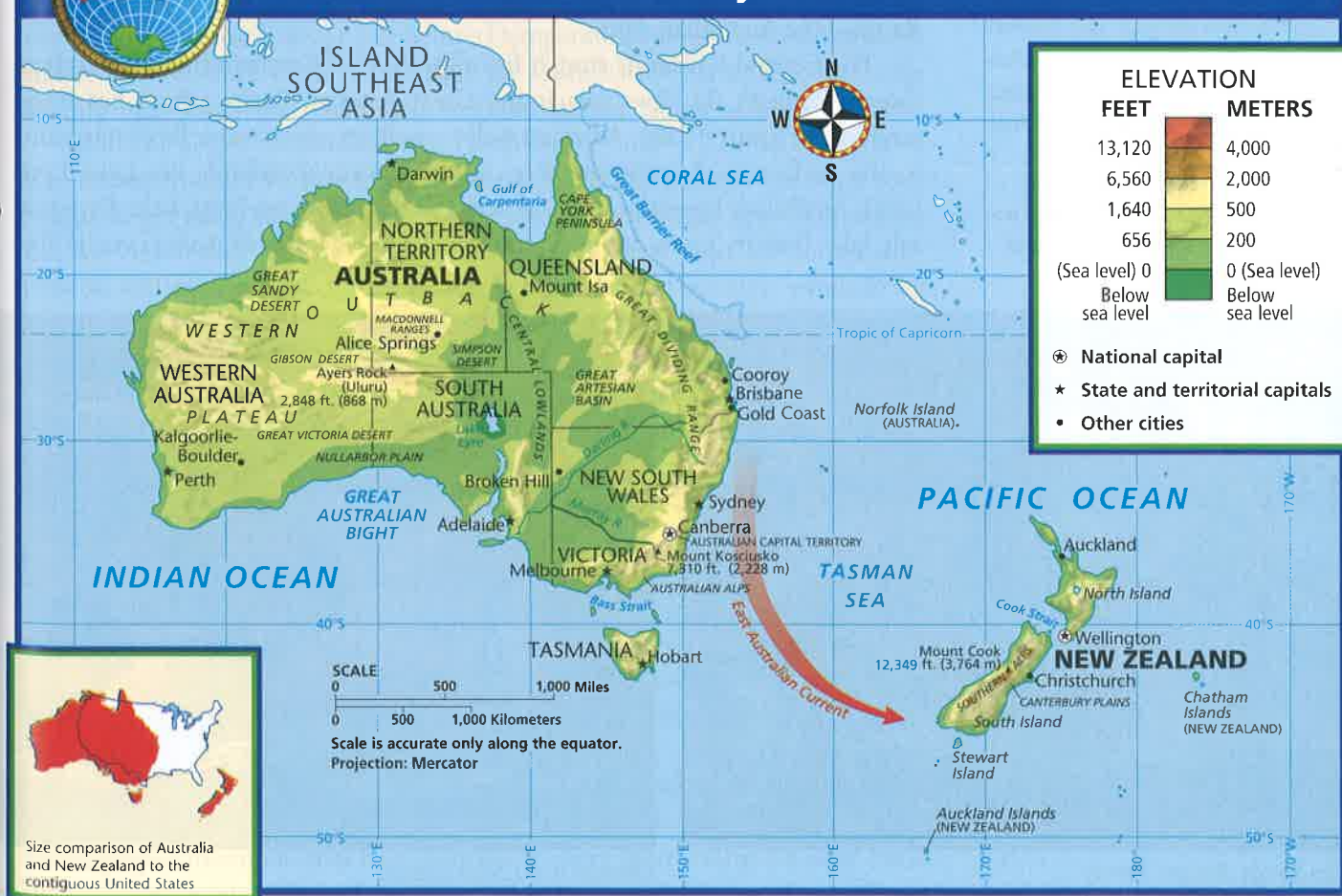
Great Dividing Range
Central Lowlands
Western Plateau
Great Barrier Reef

Locate, continued

Cape York Peninsula
Tasmania
Murray River
Darling River
Great Artesian Basin
Lake Eyre
Sydney
Melbourne
Brisbane
Adelaide
Perth
Canberra



Australia and New Zealand: Physical-Political





Natural Environments

Australia is known as the Land Down Under because of its location south of, or “under” the equator. The name *Australia* comes from a Latin word that means “southern.” The country is located between the Indian and Pacific Oceans. Almost the same size as the contiguous United States, Australia is the only country that is also a continent. It is also the smallest, flattest, and second-driest continent. As you will learn, flat topography and dry climates are major features of Australia.

Landforms and Rivers Geographers divide Australia into three main landform regions. In the east lies a highland region called the Great Dividing Range. The other two landform regions are the Central Lowlands and Western Plateau. In addition, the Great Barrier Reef lies off the northeast coast. This group of coral reefs is 1,250 miles (2,010 km) long. It is famous for its size and varied tropical sea life.

The Great Dividing Range stretches from the Cape York Peninsula to Tasmania. These highlands are the eroded remains of an old mountain range. They divide the flow of Australia’s rivers. Those that flow down the eastern slopes empty into the Pacific Ocean. Those that flow west drain into the Central Lowlands. The Murray River and Darling River—Australia’s major river system—flow west from this range.

The low Great Dividing Range is also Australia’s main mountain system. Mount Kosciusko (kah-zee-uhs-koh), at only 7,310 feet (2,228 m), is the highest elevation on the continent. It is in the highest part of the Great Dividing Range—the Australian Alps.

The Central Lowlands stretch from the Gulf of Carpentaria to the Indian Ocean. Beneath this low area is the Great Artesian Basin, which has huge amounts of groundwater. **Artesian wells**—wells in which water flows naturally to the surface—are common here. In the Central Lowlands lies Lake Eyre (AYR), Australia’s lowest point at 52 feet (16 m) below sea level. Lake Eyre is a salt lake that in many years is completely dry. North of Lake Eyre is the

Australia has many unusual landforms. This gorge at Alice Springs is near the country’s center. Far to the south, near Adelaide, lies Kangaroo Island. Almost one third of the island is within national and conservation parks.



Alice Springs, Northern Territory



Kangaroo Island, South Australia

Simpson Desert. This desert has sand dunes that are from 70 to 120 feet (21 to 37 m) high. Winds move and shape these dunes.

The Western Plateau covers about two thirds of Australia. It has the oldest rocks on the continent. For millions of years, these rocks have been eroded. Deserts cover the central part of the area. In the south is the Nullarbor Plain—a dry flat limestone plateau.

✓ **READING CHECK:** *Places and Regions* What are the three formal landform regions of Australia?

Climates Australia is a desert continent with green edges. About two thirds of Australia has an arid or semiarid climate. (See the unit climate map.) Most of the heart of Australia is extremely dry. Around these desert areas are ribbons of semiarid climate. Rainfall in these areas is often unreliable. Long droughts may be followed by short powerful storms and floods. During droughts, wildfires often sweep across the land. The dry interior of Australia is called the **outback**.

There are several reasons why Australia has such dry climates. Much of the country is between about 20° and 30° south latitude. These areas are often warm subtropical high-pressure zones with dry air. Another factor that contributes to Australia's dry climates is its generally low elevation. Only the Great Dividing Range is high enough to cause air to rise and cool, which creates rain. However, the mountains keep moisture from reaching much of the interior. West of the mountains is a rain shadow.

Temperatures in Australia are generally warm. Average January (summer) temperatures are higher than 85°F (29°C) in most of the interior and much of the north and northwest. Average July (winter) temperatures are warmest in the north and cool in the south. High elevations in the southeastern Great Dividing Range are the only areas that have cold weather. Winter skiing is possible there.

Much of northern Australia has a tropical wet and dry climate. This area has summer monsoons that bring heavy rainfall. Some parts of the Cape York Peninsula get more than 150 inches (381 cm) of rainfall per year. Winters are still warm, but may have long droughts. Along the east coast are humid subtropical and marine west coast climates. In the southeast, westerly winds bring winter storms and rain. Unlike most parts of Australia, the southeast is generally well watered. The mild climate and rainfall generate small streams and rivers. Two parts of the southern edge of Australia have a Mediterranean climate. Mild rainy winters and warm dry summers are normal there.

✓ **READING CHECK:** *Physical Systems* How does the Great Dividing Range affect Australia's climates?

Plants and Animals Australia is known for its strange plants and animals. Most are endemic species. Because of past movements of Earth's tectonic plates, Australia has been separated from the other continents for about 35 million years. During this time, its plants and animals developed in isolation. This condition has caused a unique biogeography. For example, cats are native to every continent except Australia and Antarctica. Also, hoofed animals like deer and cattle are not native to Australia. Most of Australia's mammals are **marsupials**—mammals that have pouches to carry their young. These include the kangaroo, koala, and wallaby (WAH-luh-bee).



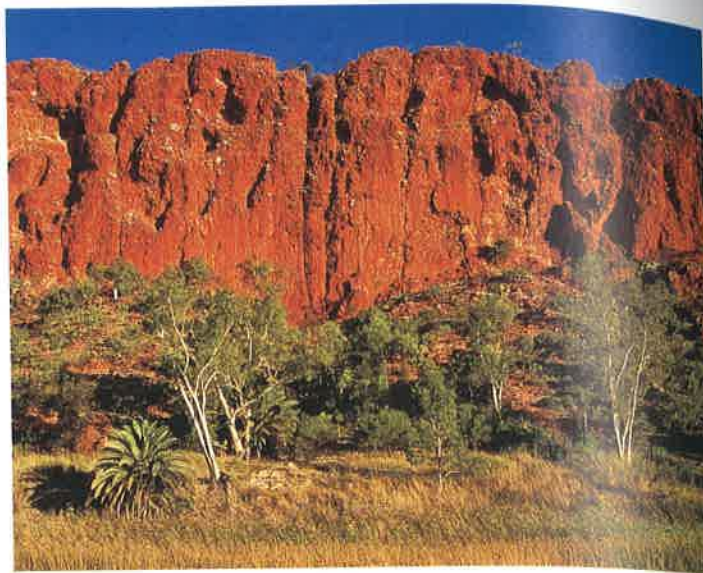
INTERPRETING THE VISUAL RECORD

These 300-foot cliffs stretch for nearly a hundred miles along the edge of the Nullarbor Plain. Nullarbor comes from a Latin phrase that means "no tree." What force is eroding these cliffs?



Rain forest, New South Wales

Border Ranges National Park, pictured above left, lies on the rim of a huge extinct volcano. More than 170 species of birds live in the park. In the western Macdonnell Ranges, above right, careful observers may see the rock wallabies that live there.



Semiarid landscape, Northern Territory

Australia's biomes mirror its climates. The interior is grassland and desert. Grassland areas have acacia (e-KAY-shuh) shrubs, bunch grasses, and scattered eucalyptus (yoo-kuh-LIP-tuhs) trees. About 500 kinds of eucalyptus are found all across Australia. Monsoonal northern Australia has large areas of savanna. Plants and animals there depend on seasonal rains. The Cape York Peninsula has tropical rain forests. Large trees and dense vegetation are common there. Animals include the tree kangaroo and many native birds, such as parrots and cockatoos. The south and southwest have Mediterranean scrub forests. The southeast and east coast have temperate forests.

✓ **READING CHECK:** **Places and Regions** What is unique about Australia's plant and animal life?

Natural Resources Australia is rich in mineral and energy resources. As you have learned, water resources are scarce in many areas, particularly the arid interior.

Mineral resources include bauxite, copper, iron ore, and many other valuable minerals. (See the map of land use and resources in the unit atlas.) Many of these minerals are found in the dry interior. Mining centers such as Broken Hill and Mount Isa have been operating for many years. The Broken Hill mines in southeast Australia produce lead, silver, and zinc. Other mines yield valuable gems, such as diamonds, opals, and sapphires. Energy resources include coal, oil, and natural gas. Along Australia's east coast are large coal deposits. Most of the oil and natural gas comes from offshore fields. The main fields are in the Bass Strait near Tasmania and off the coast of western Australia.

The country's farming resources are more limited. Most areas have poor soils, and there is not much water. Only about 6 percent of the land is good for farming. The best farming areas are in the southeast. Because of the limited amount of good farmland, many areas are used for grazing. The many artesian wells and groundwater sources make this possible. Much of the water is too salty for people, but can be used for sheep.

✓ **READING CHECK:** **Environment and Society** What factors affect the location of different types of economic activities in Australia?



Cane toads have very poisonous skin, which kills animals that attack or eat them. Brought to Queensland in the 1930s to eat pests, cane toads have disrupted native wildlife in much of northern Australia.

History and Culture

Australia's native peoples have one of the world's oldest continuous cultures. However, Australian culture has been shaped by its history as a British colony. Although it is far from Europe, Australia's dominant culture is European.

Early History and Settlement Australia's first peoples were the **Aborigines** (a-buh-RIJ-uh-nees). They came to Australia from Southeast Asia at least 40,000 years ago. Early Aborigines lived a nomadic way of life. They hunted with spears, nets, and boomerangs—curved throwing sticks. There were many groups, each with a different name, speaking hundreds of different languages. Although estimates vary, at least 300,000 Aborigines probably lived in Australia when European settlers arrived in the late 1700s.

The British settled Australia as a prison colony. The first settlement, set up in 1788, later became the city of Sydney. By 1830, nearly 60,000 prisoners had been sent to Australia. Other people came to farm or raise sheep. In 1851 gold was discovered, attracting even more people. Many settlers forced Aborigines off their land. Aborigines had no resistance to the diseases brought by Europeans, and many of them died. In Tasmania, the Aborigines were completely wiped out.

In the mid-1800s more towns and colonies were founded. Eventually, six large colonies developed. (See Connecting to History: Australia's States and Territories.) In 1901 these six colonies joined to form the Commonwealth of Australia. The new country was a close ally of Great Britain. During World Wars I and II many Australians fought alongside British troops.

✓ **READING CHECK:** **Human Systems** About how many Aborigines lived in Australia when European settlers arrived?



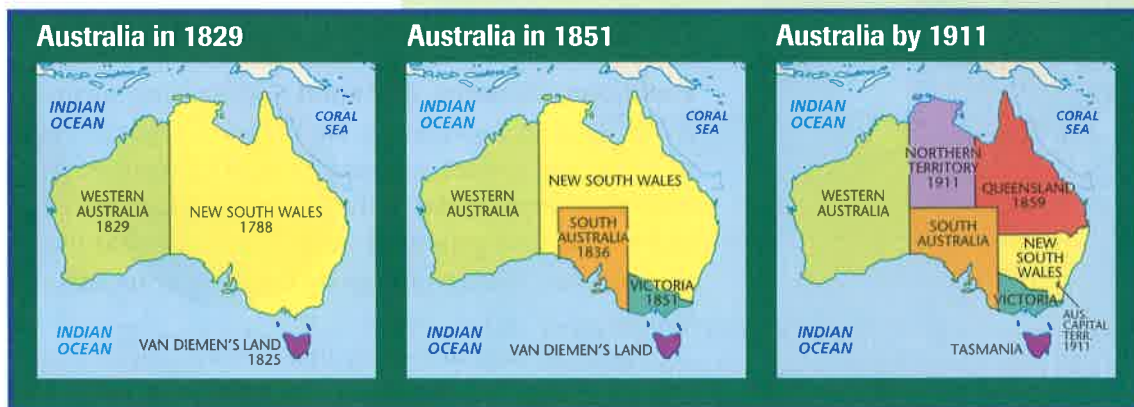
Aborigine elders from Melville Island, off the north coast of Australia, display their spears.

Connecting to HISTORY

Australia's States and Territories

Australia's first colony, New South Wales, was founded in 1788. In the 1820s Van Diemen's Land (later renamed Tasmania) and Western Australia were added. Later, colonies were created with land taken from New South Wales. These colonies included South Australia, Victoria, and Queensland. In 1901 Australia became independent from Great Britain. Soon after, the country's political geography looked much like it does today. The six colonies became states, and two territories—Northern Territory and the Australian Capital Territory—were created. (See the chapter map.)

Drawing Inferences and Conclusions Look at the chapter map. Which major cities do you think developed in each colony?



Some Common Australian Words

Word	Definition
biscuit	cookie
clicks	kilometers (or miles) per hour
dunny	restroom with just a toilet
esky	ice chest
g'day	hello
mozzies	mosquitoes
Oz	Australia
roo	kangaroo
saltie	saltwater crocodile
shark biscuit	inexperienced surfer

INTERPRETING THE VISUAL RECORD

Visitors can find fashionable galleries, hotels, and other establishments on Collins Street in Melbourne, Australia. How can you tell from the photograph that Melbourne has had a relatively long history of prosperity?



People and Languages Australia's colonial history shaped its society. About 92 percent of Australia's 19 million people are of British or other European ancestry. English is the official language. However, it is spoken with a distinct "Aussie" accent and many special Australian words. (See the table.) Asians make up about 7 percent of the population. Many Asians began moving to Australia in the 1970s. They have added to the country's growing cultural diversity. Aborigines are a small but important group. About 200,000 Aborigines now live in Australia. Many of them have mixed European and Aboriginal ancestry.

Settlement and Land Use Most people live in cities along the southeastern coast. These include Sydney, Melbourne, Brisbane, and Adelaide. Perth is a large city in western Australia. All together, about 85 percent of Australians live in cities.

Australia's settlement pattern is tied to the country's colonial history. Major cities grew as ports during colonial times. Even today, each state and territory has just one major city. (See the chapter map.) The only large city not on the coast is the capital, Canberra. It was not founded until 1913. Inland settlements, such as Kalgoorlie-Boulder, are generally mining or agricultural towns. Alice Springs, the outback's major town, is important for transportation and tourism. Where people live is also tied to Australia's natural environment. Most people settled in the southeast. This area has pleasant climates and reliable rainfall. In the dry interior, a lack of water makes settlement and farming risky. Even today, very few people live there.

Religion and Education The large majority of Australians are Christian. Asian immigration has brought many Buddhists and Muslims. Aborigines who follow traditional ways emphasize spiritual ties to the land. They believe that their ancestors created the world during what the Aborigines call the Dreamtime. These ancestors became part of nature. Such beliefs help Aborigines feel close to their ancestral lands.

Australia has a good education system. State and territorial governments run schools with help from the national government. In the outback, some students get lessons by radio, e-mail, video, and even satellite connections. One important national goal is to improve the situation of Aborigines. On average, they lag far behind other Australians in education. Historically, Aborigines have not had access to a good education in Australia. In fact, Aborigines did not even become legal citizens until 1967.

Traditions, Customs, and Food Swimming, surfing, and going to the beach are popular in Australia, as are organized sports. Most of these sports, such as rugby and cricket, are originally British games. Bruising Australian Rules football is very popular in the south. Australian artists, filmmakers, musicians, and writers have produced works known around the world. Aboriginal art is also popular. These paintings on tree bark or rocks feature human and animal figures.

Foods in Australia often mix Mediterranean and Asian styles. Common foods like beef and lamb are often grilled or roasted and served with potatoes and other vegetables. Italian and Greek foods are popular. Many immigrants to

Geography for Life

Australia's Changing Trade Patterns

Most of the world's developed countries have become rich through the production and export of manufactured goods. However, Australia's economy has long been based on the export of raw materials. The country's leading exports today include coal, gold, meat, wool, iron ore, and wheat. Australia ships these materials mainly to Japan, European Union (EU) countries, ASEAN (Association of Southeast Asian Nations) countries, and the United States. Factories in those countries make products using those raw materials.

While Australia exports mostly raw materials, it imports mostly manufactured goods. These imports include computers, machinery, office machines, and transportation equipment. Most of these imports come from the United States, Japan, ASEAN countries, and EU countries like the United Kingdom and Germany.

Since World War II Australia's government has tried to diversify the country's economy. Its goal has been to make and export more manufactured goods. Doing so would help the country become less dependent on the export of raw materials. Many factories now specialize in light manufacturing. Many also process farm products or minerals for sale overseas. In addition, Australia produces household appliances, paper products, processed foods, and textiles. The country also has a growing wine industry.

Just as Australia's economy has changed since World War II, so have its trading partners. Australia has long had strong trade relations with Britain. In fact, Britain was Australia's main trading partner for many years. However,

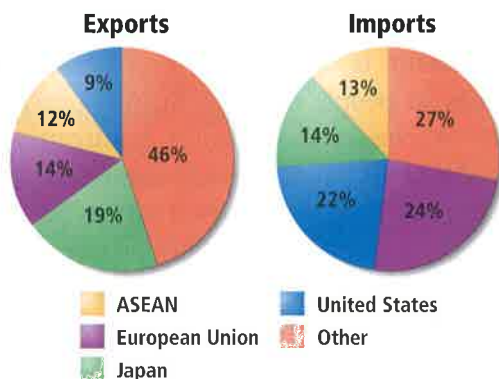


Wool from different breeds of sheep becomes products made by various segments of the wool industry, such as carpets, fine fabric, and upholstery. The fleece from the largest sheep may weigh 35 pounds (16 kg).

these ties are not nearly as strong today. This change began after World War II as U.S. influence in the Pacific region began to grow. Trade and other ties between the United States and Australia strengthened. Trade with Japan and China also began to grow. Then in 1973 Britain joined what is now the EU and ended policies that favored trade with Australia and its other former colonies.

Today EU countries are significant importers of Australian goods. However, Japan and the United States are the largest single buyers of Australia's main exports. Japan, for example, imports Australian raw materials and natural resources that it lacks at home. In trade, as in other ways, Australia is increasingly looking toward Asia for its future.

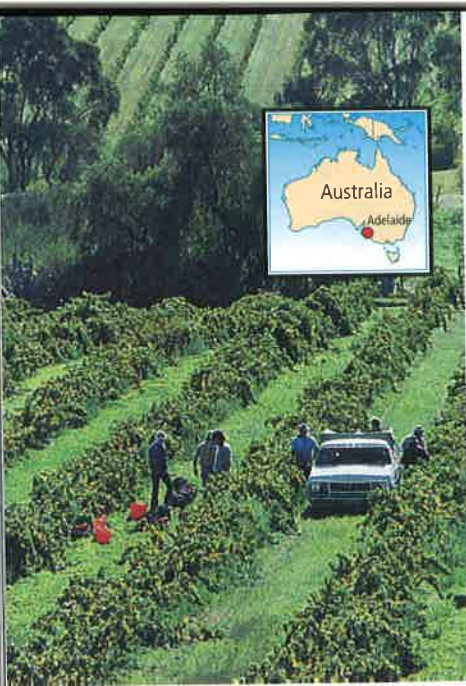
Australia's Major Trading Partners



Source: Central Intelligence Agency, *The World Factbook* 2001

Applying What You Know

- Summarizing** How and why have Australia's economy and trade patterns changed since World War II?
- Drawing Inferences and Conclusions** How might changing trade patterns increase cultural and other ties between Australia and Asia?



INTERPRETING THE VISUAL RECORD

Workers pick grapes near Adelaide, South Australia. Why do you think the southern coastal region is a good one for growing grapes?

Australia came from these countries. Asian foods have also become popular. Large cities now have many Indonesian, Vietnamese, and Chinese restaurants.

✓ **READING CHECK:** *Places and Regions* What features of Australia's history and culture make it a distinctive region?

Australia Today

Australia is a developed country with a market economy. It has good transportation systems and health care and a tradition of stable democratic government. The per capita GDP is about \$23,200—very high by world standards. Also, life expectancy and literacy rates are higher than in the United States.

Australia exports mostly raw materials and imports mostly manufactured goods. (See the chart.) Most people work in service industries like education, government, or tourism. Since World War II, Australia's major trading partners have changed. Australia used to trade mainly with Britain and other European countries. Today, however, the country trades mainly with Asia and the United States. (See Geography for Life: Australia's Changing Trade Patterns.)

Mining, Agriculture, and Tourism Mining is an important part of Australia's economy. In fact, Australia is the world's leading producer of bauxite, diamonds, opals, and lead. It is also a major producer of coal, copper, iron ore, silver, and many other minerals. Most minerals are exported to Japan or other countries in East Asia. Many of Australia's mineral resources are found in the dry interior.

Only 6 percent of Australia's land is good for farming. However, the country's large size and modern technology make it a major exporter of farm goods. The main products are wool, meat, and wheat. Wool supports the economy. The country has about 150 million sheep, or about 15 percent of all the sheep in the world. As a result, Australia is the world's leading producer of wool, supplying about 30 percent of the world's total. Most sheep are raised on the western slopes of the Great Dividing Range and around Perth. Cattle are raised in the north. Both sheep and cattle are raised on huge ranches called stations. (See Cities & Settlements: Life in the Outback.) These ranches are examples of **extensive agriculture**. This kind of agriculture uses much land but small inputs of capital and labor per unit area. Wheat is Australia's most important crop. It is concentrated in the southeast. Tropical crops like bananas, pineapples, and sugarcane grow along Queensland's wet coast. Australia produces many other fruits and vegetables also.

Tourism is a large and growing industry. Millions of people come to Australia each year to enjoy beaches and beautiful landscapes. Major vacation areas include the Great Barrier Reef, Queensland's Gold Coast, Ayers Rock (Uluru), and major cities like Sydney. Many people from other countries visit Australia even though they face long travel times to get there. The country is about a 15-hour flight from Los Angeles and a 24-hour flight from London.

Australia's Major Exports and Imports

Exports	Imports
dairy products, meat, fish, wool, forestry products, manufactures	machinery and equipment, vehicles and aircraft, petroleum, consumer goods, plastics

Source: Central Intelligence Agency, *The World Factbook* 2001

INTERPRETING THE CHART Alumina is a component of bauxite, the main aluminum ore. It has other uses too, such as in ceramics and pigments. Because so many mineral deposits are far from population centers, mining these minerals can be expensive. Foreign investment is crucial. What types of products does Australia export?

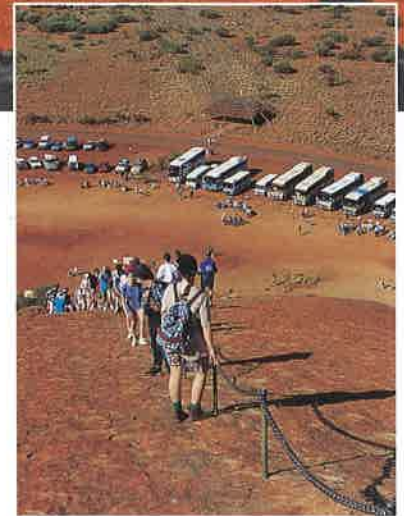


Issues and Challenges Important challenges include addressing Aboriginal claims to land and protecting the environment. In the late 1980s Aborigines began protesting mining on sacred lands. They also claimed that these lands belonged to them. This dispute has become a national issue. Judges have said that Aborigines have a right to claim traditional lands. As a result, many farmers, mining companies, and ranchers worry that they might lose control of the lands they use to earn a living.

Another challenge is protecting the environment. Australia's environment has changed greatly during the last 200 years. For example, more than a third of the country's woodlands have been cleared or altered. People usually cleared land to create areas for farming and raising animals. Hardest hit were the country's rain forests. About 75 percent of these forests were destroyed. This has reduced habitat for native wildlife.

Europeans brought many new plants and animals to Australia. New types of plants and animals that people introduce to an area are called **exotic species**. In Australia they include camels, cane toads, prickly pear cacti, and rabbits. Many have spread across the country and become problems. These new animals usually have no natural predators. For example, the British brought rabbits for sport hunting. However, the number of rabbits rose quickly. They damaged grazing lands, causing erosion. They became such a problem that people purposely introduced a disease among them. This succeeded in lowering their numbers. However, rabbits and other exotic species still cause problems.

✓ **READING CHECK:** **Human Systems** What activities are important to Australia's market economy?



INTERPRETING THE VISUAL RECORD

Because of the rock's mineral content, Uluru changes color as the sun rises and sets. The Aborigines who own the site, the Anangu, believe that only two special men from the local group may climb Uluru. How can you tell from the photo that these tourists and the Aborigines view Uluru differently?



Review

Identify

Aborigines

Define artesian wells, outback, marsupials, extensive agriculture, exotic species

Working with Sketch Maps On a map of Australia that you draw or that your teacher provides, label the Great Dividing Range, Central Lowlands, Western Plateau, Great Barrier Reef, Cape York Peninsula, Tasmania, Murray River, Darling River, Great Artesian Basin, Lake Eyre, Sydney, Melbourne, Brisbane, Adelaide, Perth, and Canberra. Which interior area has large amounts of groundwater?

Reading for the Main Idea

- Physical Systems** How do latitude and elevation influence Australia's climate regions?
- Human Systems** How have the human characteristics of Australia changed since the late 1700s?
- Human Systems** What political, economic, social, and demographic data give clues to Australia's level of development?

Critical Thinking

- Drawing Inferences and Conclusions** How is the distribution of plants and animals in Australia related to climate?

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Organizing What You Know

- Create a chart like the one shown below. Use it to describe Australia's three major landform regions.

Great Dividing Range	Central Lowlands	Western Plateau

CITIES & SETTLEMENTS

Life in the Outback

Places and Regions West of Australia's major mountains and rivers, a vast arid region extends across the country to the Indian Ocean. Some Australians call this desolate expanse the "back of the beyond," but it is better known as the outback. Temperatures here can reach 120°F (48°C) in the shade. Rainfall averages under 10 inches (25 cm) per year. The outback's riverbeds hold only rock and sand, except after heavy downpours. Dust storms are more common than rain! When it fills with water, Lake Eyre, at the edge of the Great Victoria Desert, is the country's largest lake. However, the lake fills completely only about twice in a century. Instead, most of the time the "lake" is a huge salt flat.

Adapting to the Environment

The outback covers about 75 percent of Australia. It is the ancestral home of Australia's first people, the Aborigines. Today only about 10 percent of Australians live on this desolate unforgiving land. Population density averages fewer than two people per square mile, and large areas are completely uninhabited. Many outback dwellers live 300 miles or more from the nearest

store. Doctors and schools are even farther away. Such conditions have created a rugged and independent people. Yet the region defeats those who believe they can truly conquer it. The people of the outback survive only by adapting to the arid environment.

Coober Pedy, a town west of Lake Eyre in South Australia, provides a clear example of this adaptation. This isolated community is one of the few stops on the only paved road that crosses the entire outback. Called the Stuart Highway, this route connects the northern and southern coasts to Alice Springs, in the Northern Territory. With just 27,000 people, "the Alice" is one of the outback's largest towns.

Fewer than one percent of South Australia's 1.5 million people live in the state's interior. A visit to Coober Pedy quickly reveals why. The people of Coober Pedy have had to take extraordinary measures to live in such a harsh environment. In the Aborigine language, *Coober Pedy* means "White Man's Burrow." The name fits. Coober Pedy exists only because of the opal mines nearby. The town is the world's largest producer of these precious stones. In addition, much of Coober Pedy is itself underground. To escape the blistering heat, businesses, churches, and many homes are below the surface. These establishments, and about half the residents, occupy old mine shafts or specially dug homes called dugouts. In these underground places the temperature is 72°F (22°C) all year.

Adapting to Isolation

Along a rough dirt road between Coober Pedy and Lake Eyre lies the Anna Creek Station homestead. This small cluster of buildings is the station's headquarters. Covering some

People shop for opals in one of the many belowground stores in Coober Pedy.





18,600 square miles (30,000 sq km), Anna Creek is the largest cattle station in Australia. However, only 15 people live here. Besides the station manager and his family, the population includes a cook, pilot, and teacher. Several ranch hands—or “jackeroos” as cowboys are known in Australia—complete the group.

For those who are not used to it, station life can be uncomfortable. The ground is hot and dry. Snakes sun themselves on low sand dunes behind the buildings. Flies seem to be everywhere. The wind carries a fine red dust that covers everyone and everything. For some of the station’s residents, dealing with the loneliness is difficult. After all, Coober Pedy, 100 miles to the west, is the closest town. Yet other station residents could not imagine living in a city again.

Few of the station’s teachers have lasted more than a year before returning to the coast. Even when the station has an on-site teacher, basic education comes from the School of the Air. Using a high-frequency radio, the children take part in classes broadcast from the coastal city of Port Augusta. Every grade level has a half-hour class each day. Each student also receives an



Anna Creek family members and jackeroos pose for an informal portrait. The children’s best friends may live hundreds of kilometers away. Still, some residents compare their far-flung community’s closeness to a small town’s.

individual 10-minute radio session with his or her radio teacher once a week. Other lessons arrive on videotape. Students mail in their assignments. The teacher grades them and returns them by mail. Students work five or six hours a day on these assignments. A parent or a hired teacher, as at Anna Creek Station, supervises. Use of the Internet, e-mail, and video conferencing is increasingly important for instruction.

March through November is the busiest time at Anna Creek. The cattle must be gathered before the heat and the flies make life miserable for people and animals. Calves must be tagged, horns cut, and some livestock shipped to market. The roundups are challenging. Some 16,000 head of cattle may be spread across an area larger than the state of Maryland. The jackeroos go out for weeks at a time to various parts of the station. Like education in the outback, this job also depends on technology. Jackeroos use motorcycles instead of horses on these roundups, and workers in airplanes spot cattle from the sky.

A worker watches a small part of the Anna Creek herd, which had been reduced by drought. Although horses are seldom used for roundups, many outback families keep them for other purposes.



Applying What You Know

- Analyzing Information** How have technological innovations allowed people to live and work in the outback?
- Comparing** How is education in the outback similar to education in the United States? How are the two systems different?

Section 2

New Zealand

READ TO DISCOVER

1. What are some important features of New Zealand's natural environment?
2. What are New Zealand's history and culture like?
3. On what is New Zealand's economy based, and what economic challenge does the country face?

WHY IT MATTERS

Depending heavily on world trade may cause problems for New Zealand. Use onlyfi.com or other **current events** sources to investigate dependence on world trade in New Zealand or other countries.

IDENTIFY

Maori

DEFINE

economy of scale

LOCATE

North Island

South Island

Cook Strait

Southern Alps

Canterbury Plains

Auckland

Wellington

Natural Environments

The South Pacific island country of New Zealand is about 1,000 miles (1,609 km) southeast of Australia. Like Australia, New Zealand has a British colonial history and a high standard of living. However, New Zealand is also very different. It is much smaller, more mountainous, and has a wetter and milder climate. The country has two major islands—North Island and South Island. (See the chapter map.) They are separated by Cook Strait. Some smaller islands in the Pacific are also part of New Zealand.

North Island In the north are peninsulas with forests and fertile lowlands. New Zealand is located on the Pacific Ring of Fire, so it is a tectonically active country. The central and western parts of North Island have active volcanoes,

Tree ferns grow in Waitaanga Forest, North Island. These plants, which can be more than 30 feet (9 m) tall, have been called living fossils because the species has survived for some 150 million years. A fern leaf is one of New Zealand's national symbols.



geysers, and hot springs. These are created by the collision of the Pacific and Indo-Australian Plates. Subduction along this plate boundary causes earthquakes as well. The eastern part of North Island has rugged hills and small coastal lowlands.



South Island South Island is larger and has higher elevations than North Island. A steep mountain range called the Southern Alps runs along the west coast. The Southern Alps include Mount Cook, New Zealand's highest peak, which rises to 12,349 feet (3,764 m). The Southern Alps are famous for their beautiful scenery, with many glaciers and mountain lakes. Below are thick green forests. Along the east coast of South Island lie the Canterbury Plains. Different grain crops and livestock feeds are grown in this fertile lowland area.

✓ **READING CHECK:** **Physical Systems** What physical processes have created volcanoes, geysers, and hot springs on North Island?

Climates and Biomes All of New Zealand has a mild marine west coast climate. However, temperatures and precipitation vary across the country. In general, North Island is warmer than South Island and rarely receives snow. Westerly winds bring moisture. When these winds hit the Southern Alps, they drop rain and snow. As a result, western South Island receives much more precipitation than the east, which is in a rain shadow. Most of the west coast averages more than 100 inches (254 cm) of rainfall each year. Some eastern areas receive less than 20 inches (51 cm).

Most of New Zealand has a temperate forest biome. Forests cover nearly 30 percent of the country. These forests have mostly evergreen trees. Plant and animal life includes many endemic species. The most well known of these are flightless birds like kiwis (KEE-weez), which live in forests. Kiwis sleep during the day and look for food at night. Moas, a much larger kind of flightless bird, became extinct several hundred years ago. Unlike Australia, New Zealand has no endemic mammals except bats. New Zealand also has many exotic species. European settlers brought cats, cattle, deer, and sheep.

✓ **READING CHECK:** **Places and Regions** Which climate and biome are found throughout New Zealand?

The tuatara (too-uh-TAHR-uh), a small reptile, is found only on a few islands of New Zealand. Tuataras are the last living members of an ancient group of reptiles related to the dinosaurs. They appeared on Earth more than 200 million years ago. Some tuataras may live to be 100 years old.



Lake Matheson lies at the foot of Mount Cook and Mount Tasman on New Zealand's South Island. This tiny lake is protected from the wind, so its still surface reflects the mountains clearly.

This example of Maori folk art was created in 1888 for a visit by Te Kooti Rikirangi, a Maori guerrilla and religious leader. Maori artisans were highly skilled in wood carving and stone carving. This painted work, therefore, may show the influence of European art forms.



Natural Resources New Zealand's main resource is good land for farming. More than 50 percent of the land supports crops or livestock. Forests are also important. Pulp and paper are produced from the fast-growing *radiata* pine tree, an exotic species brought from California. Much hydroelectric power is produced from New Zealand's rivers. This kind of energy supplies 65 percent of the country's electricity. Geothermal power is also produced. New Zealand does not have many large mineral deposits. The most important are coal, gold, iron ore, and natural gas.

✓ **READING CHECK:** **Places and Regions** What is New Zealand's main resource?

History and Culture

Like Australia, New Zealand was colonized by British settlers. What effects do you think this had on New Zealand?

Early History and Settlement The first people in New Zealand were the **Maori** (MOWR-ee). They came from Pacific islands to the north about 1,000 years ago. Anthropologists call the early Maori moa hunters because moas were their main prey. Other groups of Maori came later. Most settled on North Island. Their culture was based on farming, fishing, and hunting.

In 1642 Dutch explorer Abel Tasman became the first European to reach New Zealand. However, the Dutch did not return to settle the islands. In 1769 British explorer James Cook landed on North Island and made contact with the Maori. He explored both North Island and South Island.

The first European settlers in New Zealand came from the British colony in Australia. They were missionaries, traders, and whalers. In 1840, British settlers and Maori leaders signed a treaty that gave the British control of the islands. In exchange, the British agreed to protect Maori rights. The British set up several settlements on North Island in the 1840s. However, troubles between the Maori and British soon arose. Some British settlers began taking

Maori lands. Also, diseases introduced by Europeans killed many Maori. These problems led to the Maori Wars of 1845–72, which the Maori lost.

In 1907 New Zealand became an independent country within the British Empire. It continued to develop its farming economy. New refrigeration methods allowed farmers to ship meat and dairy products to Britain. Like Australia, New Zealand sent troops to fight alongside the British in World Wars I and II.

✓ **READING CHECK:** *Human Systems* How did British settlement affect New Zealand's human geography?

People and Languages Most New Zealanders have British ancestors and speak English. Asians and Pacific Islanders are both small but growing minorities. New Zealand's largest minority group, the Maori, makes up nearly 10 percent of the population.



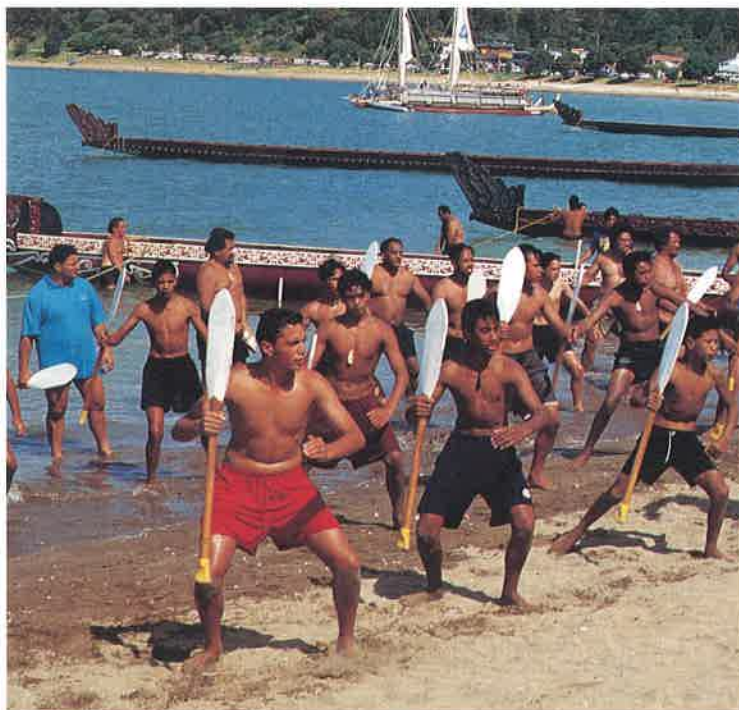
FOCUS ON CULTURE

The Maori The Maori are related culturally to other peoples of the Pacific Islands. According to Maori legend, they came to New Zealand in seven canoes. Then a Maori hero named Maui created North Island by fishing it from the sea. Maori society was made up of different tribes (*iwi*) ruled by chiefs (*ariki*). Tribes lived in villages. Land belonged to smaller groups (*hapuu*) within each tribe. Maori artists decorated canoes and houses with beautiful designs. Tattooing was common. Chiefs and warriors had facial tattoos (*moko*) that symbolized their high place in society.

Maori culture has changed greatly since Europeans came. Today most Maori live in cities. Many have mixed Maori and European heritage. While Maori have adapted to Western society, many are behind other New Zealanders in education and employment.

INTERPRETING THE VISUAL RECORD

Left: Maori train for a celebration. Their war canoes are in the background. Right: New Zealand's national rugby team, the All Blacks, performs a Maori dance and chant called a haka before every international match. A New Zealand team performed a haka overseas for the first time in 1888, in Great Britain. By what process would the haka enter popular culture?



Many Maori have maintained traditional ways of life. For example, Maori often greet each other by pressing their noses together (*hongi*). Dances called action songs are also common, as are traditional carved meeting houses. Although nearly all Maori speak English, some prefer to use the Maori language in their homes. In 1987 Maori became an official language of New Zealand.

✓ **READING CHECK:** **Human Systems** How have the Maori maintained traditional ways since the arrival of Europeans?

Settlement Most of New Zealand's 3.9 million people live in lowland areas along the coast. About 75 percent live on North Island. More than 80 percent live in cities. New Zealand's primate city is Auckland. About 30 percent of all New Zealanders live in or around Auckland. Other major cities include Wellington, which is the capital, and Christchurch.

Traditions, Customs, and Food Like in Australia, outdoor activities are popular in New Zealand. A mild climate makes camping, hiking, and sailing possible year-round. Skiing is popular at resorts in the Southern Alps. Organized sports include rugby and cricket, both of which are played throughout the country. New Zealand also competes in international yachting races. In fact, practically every sport one can imagine is available. New Zealanders even enjoy creating new outdoor activities.

In New Zealand sheep outnumber people 13 to 1, so workers who can shear sheep quickly and well are valued. Recordholders can clip the wool from a sheep in less than a minute. The best shearers in the world come to New Zealand to compete against each other. Champions earn prize money and local fame.

Favorite foods in New Zealand include clam soup, lamb, and sweet potatoes. A meringue, fresh fruit, and cream dish called a pavlova is the national dessert. Tea is popular, reflecting the country's British heritage.

✓ **READING CHECK:** **Places and Regions** Where do most New Zealanders live?



INTERPRETING THE VISUAL RECORD Cable cars provide transportation for residents and visitors in Wellington, New Zealand. *Why do you think that cable cars are an efficient form of transportation in this city?*

Economy and Issues

New Zealand's economy is a combination of farming, manufacturing, and tourism. Major exports include wool, meat, fish, and dairy products. Historically, the country's economy has been based on the export of farm goods. However, manufacturing and services have become much more important in the past 20 years.

New Zealand's pastures support millions of sheep and cattle. Major crops include wheat, barley, fruits, potatoes, and vegetables. The country is the

world's largest producer of kiwi fruit. Many industries are closely tied to agriculture. For example, factories make processed foods like butter and cheese. Most of these are exported. Other industries include wood and paper production, textiles, and machinery. The main industrial center is Auckland. New Zealand has a growing film industry. Many movies and television programs are filmed there. One reason is the wide range of settings the varied landscape provides. Tourism is also important to the economy.

One challenge with developing industries in New Zealand is the country's small population. It makes New Zealand a small market. Therefore, it is harder for industries to develop an **economy of scale**—a large production of goods that reduces the production cost of each item. For example, if a company produced machines but was only able to sell 10 per year, it might not make a profit. However, if the company sold 10,000 machines per year, it would lower the cost of producing each machine and make a large profit.

Another challenge facing New Zealand is diversifying its economy. The country depends heavily on exports. Therefore, changes in world markets can have important effects on its economy. For example, like Australia, Great Britain used to be New Zealand's main trading partner. In 1973 Britain joined what is now the European Union (EU). Britain then had to raise its tariffs on goods from non-EU trade partners. As a result, prices on products from New Zealand rose in Britain. This increase caused the number of goods New Zealand sold to Britain to fall. Since then, New Zealand has diversified its exports. It has also found new trading partners. New Zealand now trades with Australia, the United States, and Japan. However, global trade is still vital to the country.

✓ **READING CHECK:** **Human Systems** How have changes in world trade patterns affected New Zealand's economy?



INTERPRETING THE VISUAL RECORD Sheep graze in a pasture on South Island. How does the environment of this sheep station appear to differ from the one you read about in *Cities & Settlements: Life in the Outback*?



Review

Identify

Maori

Define

economy of scale

Working with Sketch Maps

On a map of New Zealand that you draw or that your teacher provides, label North Island, South Island, Cook Strait, Southern Alps, Canterbury Plains, Auckland, and Wellington. What is New Zealand's primate city?

Reading for the Main Idea

1. **Physical Systems** How do the Southern Alps affect New Zealand's precipitation patterns?
2. **Environment and Society** How did technological changes in the early 1900s affect New Zealand's export economy?
3. **The Uses of Geography** In New Zealand's market economy, how are major commercial industries tied to its agricultural products?

Critical Thinking

4. **Analyzing Information** What do you think might have attracted early settlers to New Zealand?

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Organizing What You Know

5. Create a chart like the one shown below. Use it to describe the natural environments of North Island and South Island.

North Island	South Island